

CUBIT Capability Proposal

Technical Area

Geometry, Meshing, Infrastructure, GUI, Graphics, etc..

Technical Lead

Cubit Developer in charge of technical area

Mesh I/O

Karl Merkley

MRD Description

Describe the capability in terms of how a user would see it.

Provide a python interface to the export functionality of Cubit. This would allow end users to access the Cubit data structures to export the data to any format that is desired.

SRS Description

What needs to be done by Cubit developers to implement this capability? Break the tasks into steps if applicable. (Steps should be on the order of 2 man-weeks or more)

1. Define new interface methods (current design has 11 functions)
2. Implement new functions.
3. Provide a test example that would export something like the vtk data format.

Justification

Describe why this is important and what impact it will have if it is implemented. (or not implemented).

We have many users who want Cubit data exported in their own custom format. The traditional method for accomplishing this has been to write an Exodus to custom format translator. However, Exodus has certain structural problems that prevent the users from obtaining all the data that may be required. For example, id spaces in Exodus do not match the id space in Cubit. For codes that have an explicit id space there is a desire to keep that intact throughout the analysis process. Also, there is difficulty in associating attributes with sidesets and nodesets from the Exodus file. This capability would allow users to access the Cubit data structures directly and export data in their own custom format.

Resources

Who will work on this

Time estimate

How much time will it take in man-weeks

Targeted Release

10.2 (August 06), 10.3 (March 2007), 10.4 (August 2007), Future (beyond FY07)

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2 man weeks

10.2

Submitted By:

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Date:

17-March-2006